Introduction to the process of competition

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1. Introduction

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1. THE PROCESS OF COMPETITION: DEFINITION AND OBJECTIVE

This book is dedicated to the analysis of the process of competition. Considering competition as a process implies at first that competition is intrinsically a dynamic and complex phenomenon. In the real world, competition is taken to mean that range of actions aimed at ensuring the realization of the choices of a given firm while restraining at the same time the sphere of actions of its rivals. In the current sense of the word, competition is associated with the verb 'to compete' which involves a process of rivalry between firms for a market or for a productive resource (human, material or financial). This includes rivalry in prices, in improved techniques of production or products, in R&D or in advertising expenses, in the engagement of new productive or distributive activities or in the imitation of existing activities, in the implementation of new forms of organization in which customers, suppliers, partners or even competitors may be involved.

Can this vision of competition be expressed in analytical terms? What are the necessary conditions for it? This book is attempting to answer these questions, using a double point of view. The first crucial point is to assess the different temporal aspects of competition, such as learning, discovery and selection processes, and the connections that can be made between these dimensions which are extensively used in the recent literature. The key element is to determine the evolution of the notion of competition as a process through the emergence of different economic paradigms and to stress what are the basic requirements that allow these different paradigms to deal with the dynamic characteristics of competition. The second crucial point is to analyse the concrete implications of an analysis of the process of competition for public policies, and especially for competition policies. For instance, when competition is analytically considered as a process, pure integration, mergers and acquisitions, cooperation and alliances may become integral parts of the normal functioning of competitive markets. These interfirm relations which are perceived as collusion within the traditional vision of competition can be legitimated for some periods and for specific purposes. Here the key element is to determine the capacity of the analysis of the process of competition to derive operational guidelines for competition policy.

The reader should note the following points. Firstly, the development of an analysis of the process of competition is not dedicated to making existing analytical frameworks more complex by introducing into it numerous characteristics of the concrete functioning of competition. The purpose is rather to elaborate a workable analysis. Secondly, the distinction between 'competition as a state of affairs' and 'competition as a process' is not only a matter of semantics. This distinction conveys alternative frameworks which focus on distinct but sometimes complementary issues. On the one hand, competition as a state of affairs is intrinsically based on the study of equilibrium systems in which the adjustment process is essentially complete. Market clearing is ensured by the fact that agents can have access to information in order to correct their choices through time under perfect rationality. Coordination between agents is then supposed to be perfect and is characterized by a competitive equilibrium or by a Nash equilibrium. Perfect or imperfect competition situations can be described on this basis, each of these situations being analysed as specific equilibria. On the other hand, the process of competition studies situations where market disequilibria prevail. These disequilibria are generated by a constant discovery of new production and market opportunities and, more generally, by the emergence of radical and persistent changes within the economic system. The focus is on the process of adjustment in itself in order to see how interacting firms arrive at any coordination.

For a long time, however, the dynamic and concrete vision of competition has not been at the centre of economic analysis. Even if some authors, such as Hayek (1937, 1946) and Schumpeter (1942) stressed that competition had to be considered as a process, early mainstream economics focused essentially on the negative outcomes of this process. Within this framework, when the process of competition is over, only a few firms remain on the market and the implementation of competitive strategies necessarily implies that some firms acquire or keep a dominant position. The concept of perfect competition in which entry is free, firms are price takers and decisions are independent was dominant in economic analysis and had an important influence on the definition of competition policies. According to the structure–conduct–performance paradigm (Bain, 1956, 1959; Mason, 1957), competition had to be assimilated with a market structure and, consequently, an industry which did not have a competitive structure could not have a competitive behaviour. This idea governed the concrete decisions of antitrust authorities, and markets in which firms were small in number were considered a threat to competition. This vision was significantly weakened during the 1970s (Demsetz, 1973) by the diffusion of the theses of the Chicago School, and the emergence of the analysis of contestable markets (Baumol *et al.*, 1982) which provided a new basis for discussion of this issue during the early 1980s. The Chicago School argued that the methods which were used by the structuralist approach were essentially static in their nature and consequently they were not adequate to analyse intrinsically dynamic competitive phenomena. According to the economists of Chicago, market forces by themselves prevent the existence of dominant firms or monopolistic positions. The authors showed that there is no obvious causality between small number markets and the lack of competition, and no observable tendency to concentration over the long term. The analysis of contestable markets contributed to refining the notion of 'potential competition' which became progressively an analytical reference. As soon as a firm is able to enter a market and to exit without costs according to the 'hit and run' assumption, the market is considered as competitive even if this market is composed of a single firm. In this case, the market structure is naturally composed of this unique firm. This is a 'natural monopoly'. These successive developments show that the conception of competition has evolved in economics. Being considered at first through the comparison of different market structures, competition in the early 1980s was connected to different potentialities of entry and exit. In the mid-1980s the New Industrial Economics emerged as a major framework which soon imposed another vision of competition. Competition was now analysed through the characteristics of different market behaviours where strategic interactions prevailed. Using the apparatus of game theory, this approach was able to describe a complete range of market strategies, from agreements between firms that could be either explicit or tacit, to excessive pricing, price discrimination, predatory pricing or vertical restraints that could deter entry or impose foreclosure (Jacquemin and Slade, 1989; Tirole, 1988; Phlips, 1995).

At that time the deeper understanding of the complexity of competitive phenomena had become a common requirement for economists. However, if we take into account the contributions over the last five years, advances obtained from the 1980s until the early 1990s do not seem sufficient and the 1990s really present a new opportunity to discuss anew the notion and the policy implications of competition as a process. An important feature of these recent developments is that the theme of the process of competition is now studied by economists who belong to different schools of thought. In fact, although this notion was primarily used by heterodox approaches (namely Austrian and evolutionary theories), now it also penetrates more traditional analyses. Moreover, the achievements as well as the limitations of early mainstream analysis are examined and discussed and there is a real attempt to reach a better understanding of the process of competition (Jorde and Teece, 1990; Baumol, 1992; Geroski, 1992; Jacquemin, 1994; Langlois and Robertson, 1995; Machovec, 1995; Vickers, 1995; Blaug, 1997). Competition as a process is a real challenge for all economists and to some extent this challenge calls into question the traditional divisions between existing economic approaches.

The main idea of the recent literature is that the traditional distinction between static and dynamic competition does not contribute at all to the understanding of competitive phenomena. For instance, a study of the works of the founding fathers of the analysis of competition such as Smith, Cournot, Edgeworth and Marshall shows that there was not such a clear divorce between the two notions. It appears that even perfect competition had its roots in the broad concepts of competition as rivalry. Nevertheless, the static analysis was privileged because it allowed the definition of simple criteria for the evaluation of competition, but it was obvious that competitive phenomena were not reducible to these measures. The developments of the 1990s conclude that significant improvements on the debate would be made if we were looking for a more precise definition of the respective domains where these two conceptions apply. Static competition seems extremely useful for analysing all sorts of economic issues such as allocation and price problems, but questions about complex competitive processes and about their effects on productive and innovative phenomena require other approaches.

Within these recent developments, the meeting and the confrontation between alternative approaches on the topic of the process of competition seem to take place progressively. A significant evolution of the different economic paradigms in the last few years was necessary to favour these exchanges. On the one hand, despite considerable advances over the past 15 years on the definition of a wide range of market behaviours and market structures, some ambiguous conclusions remain concerning the effects on economic efficiency within the mainstream framework. For instance, Hay (1993) notes that there is no clear answer whether agreements to exchange information can be considered as competitive or not. Tirole (1988) shows that agreements implying such exchange of information are anti-competitive: overt collusion is not permitted, as well as tacit collusion which may take the form of 'conscious parallelism' with firms making identical price changes more or less at the same time. But Phlips (1995) shows that exchange of information may be needed to facilitate the establishment of non-cooperative equilibria and thus to arrive at the economic efficiency, especially when demands and costs are changing rapidly. The same problem emerges with the issue of vertical integration, which is certainly one of the more difficult to handle within the different market behaviours identified by mainstream economics. Vertical integration solves the double marginalization problem, but may imply at the same time entry deterrence or foreclosure. In this case the condemnation of a vertical integration is not always efficient because the firm can obtain the same results by implementing more flexible vertical restraints, such as exclusivity relationships and franchise fees (Katz, 1989). These ambiguous conclusions emerged when mainstream scholars decided to look progressively beyond the general principle which saw any agreement between firms as a means to simultaneously increase price and decrease output. On the other hand, efforts have been made to analyse the complexity of competitive phenomena and to build a convincing argumentation on specific topics which were not studied by mainstream economics. For instance, as soon as cooperation is not reduced to collusion, it is possible to show that the competitive process works because of and not in spite of the complex network of interfirm arrangements (Penrose, 1959; Richardson, 1960; Loasby, 1991; Foss, 1995).

In the domain of competition policy, different problems are to be solved. Firstly, the problems encountered by economic analysis on the theme of competition have quite naturally penetrated the sphere of competition policy. Apart from the problems we have just mentioned, the notion of workable competition and the analysis of contestable markets which were used to guide competition policy are now described as generating some ambiguities linked especially with the difficulty of defining the sub-additivity of the costs functions of firms in the concrete world. Secondly, and consequently, one may ask whether economic efficiency can still be considered as the main objective of competition policy if we take into account the difficulties of deriving clear conclusions in terms of efficiency from economic models. Thirdly, competitive authorities have to intake their decisions at one moment in time. Nevertheless, from the observation of the concrete functioning of businesses and industries, we know that a given situation can evolve in a way which was not predictable beforehand. These three major difficulties have no obvious or immediate solution. This is presumably why economists are often tempted to suggest a case-by-case study for competition policy. However, the unavailability of a solution should not prevent us thinking hard about a procedure and a global method of evaluation for competitive authorities which could be more reliable, operational and at least able to reduce the effects of these three difficulties.

2. STRUCTURE OF THE BOOK AND PRESENTATION OF THE CONTRIBUTIONS

Three elements are generally presented in order to analyse competition as a process: (a) the distinction between the analysis of the process of competition and the more traditional views of competition; (b) the necessity to characterize the behaviour of firms dedicated to organizing competitive processes; and (c) the evolution of these organizational forms and the role of competition policy. These three elements are key issues in this book and are analysed in turn by the different contributors.

The economic literature on the process of competition is not homogeneous, in the sense that it does not provide a coherent vision of this notion. Different meanings are still competing. Competition is a process of learning and coordination, a process of discovery, a process of trial and error, a process of selection and so on. In Chapter 2, Israel Kirzner, who directly contributed to the development of the analysis of the process of competition, proposes to explain the connections that can be made between these different notions through the study of the evolution of the notion of competition throughout the twentieth century. He shows that the distinction between competition as a state of affairs and competition as a process is not purely semantic, and that it must rather be considered as the basis of two different frameworks. In fact he explains that this distinction, presented by Hayek, has remained neglected for a long time, and this implied that static competition models acquired a dominant position in economic analysis. However, the recent developments on the process of competition show a renewed interest in competition as a dynamic phenomenon and can be interpreted from Kirzner's point of view as a better understanding of the Hayekian distinction.

Kirsten Foss and Nicolai Foss focus in Chapter 3 on recent theories of the firm, trying to relate them to different market process approaches. New developments in industrial organization have analysed as a first priority the nature of the firm by tackling the question of how to distinguish a firm from a market. These analyses significantly improved the understanding of industrial phenomena, but the authors tell us that the time is ripe for an analysis of the vision of the market that these theories of the firm are supposed to convey. In fact, having in mind the advances provided by recent theories of the firm, the authors propose to go back to the analytical notions of competition and market in order to characterize new features of the process of competition.

These two contributions have emphasized that, to analyse properly the process of competition, the adequate framework should be based on a temporal perspective in which disequilibria and discovery phenomena prevail. Austrian approaches have widely discussed the issues of desequilibria and discovery and, as such, these approaches offer a reliable basis to built this kind of framework. However, these questions were also largely debated by other approaches. Marshall and the post-Marshallians such as Penrose, Richardson and Loasby have realized an in-depth analytical work on the articulation between production processes and market processes. Michel Quéré provides, in Chapter 4, a few insights from the Marshallian perspective. He especially emphasizes the ambiguity around the concept of free competition within the *Principles*, due to the conciliation exercise provided by Marshall, and stresses the relevance of complementary attempts like *Industry and Trade,* especially, in order to contribute to the analysis of competition as a process. In Chapter 5, Mario Amendola, Jean-Luc Gaffard and Patrick Musso propose a model that makes it possible to bring into the light the role of competition as a means of realizing increasing returns associated with new and superior technologies. In doing so, they give structure to a conjecture made by Richardson according to which competition is compatible with increasing returns, provided that production takes time.

Assuming the temporality of competitive phenomena involves the analysis of a series of questions about the behaviour of firms. What are the main features of the behaviour of firms within a process of competition framework? The incompatibility between the process of competition and equilibrium analyses implies that it may be difficult to describe this behaviour within a conventional programme of maximization. Other types of behaviour are then to be discovered and described. For instance, adaptation, imitation and routine, but also imagination and innovation, have to be investigated. These types of behaviour were for a long time ignored in the literature because of the dominance of the analysis of rational behaviour. This situation has evolved in a significant manner. The problem now is to determine in which context each type of behaviour is likely to prevail.

Nicolai Foss and Volker Mahnke show, in Chapter 6, that the strategy which implies that firms will acquire and maintain a competitive advantage is essentially a disequilibrium phenomenon linked to discovery, innovation and resource combination. They conclude that strategy cannot be correctly described within traditional analyses of industrial organization and business management because these analyses are based on the study of equilibrium systems. They propose some guidelines for analysing correctly firms' strategies. In Chapter 7, Jackie Krafft and Jacques-Laurent Ravix focus on behaviour of firms in a context where both market knowledge and productive knowledge are considered. They study the conditions of the coordination of different types of investments: the complementary ones which relate to the production process and the competitive ones which relate to the market process. These conditions depend on specific rules of behaviour which require the implementation of different types of business institutions.

Behaviour of firms in the concrete world often implies the elaboration of complex organizational relations between firms, such as alliances, mergers or cooperations, this behaviour being generally implemented by firms in order to organize the process of competition. The role of competition policy is to define some limits when these organizational forms disturb the process of competition. In Chapter 8, Michel Glais focuses on the European merger regulation and stresses that, although the general philosophy of competition policy remains within the conventional vision of competition, the practice of the European Commission relies on broader concepts than economic efficiency to evaluate the nature of the process of competition.

The different chapters of this book give the opportunity to organize economic thinking on the theme of the process of competition and on its implications in terms of competition policy. Of course, a full understanding of the dynamics of competition is far from being accomplished. While some dimensions have been examined in depth, others have to be completed and refined. This attempt will have to be pursued during the next few years.

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